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09/743,004	12/29/2000	Mikio Iwamura	15689.63	3051

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EXAMINER

RAMOS FELICIANO, ELISEO

ART UNIT	PAPER NUMBER
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2687

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/743,004

Applicant(s)

IWAMURA ET AL.

Examiner

Eliseo Ramos-Feliciano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3,4,9-13,38,39,43,44,50,51 and 56-66 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,4,9-13,38,39,43,44,50,51 and 56-66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The references listed in the Information Disclosure Statement filed on June 02, 2005 have been considered by the examiner (see attached PTO-1449 or PTO/SB/08A and 08B forms).

### ***Allowable Subject Matter***

2. The indicated allowability of the claims is withdrawn in view of the newly discovered reference(s) to Watanabe et al. (B-259 Base Station Code Assignment for A CDMA/TDD System, Page 259. 1995 IEICE (the Institute of Electronics, Information and Communication Engineers) Communication Society Convention. – cited as document number 2 in IDS filed on June 02, 2005) and Taketsugu (US Patent Number 5,530,910). Rejections based on the newly cited reference(s) follow.

### ***Claim Objections***

3. **Claims 3, 9, 10 and 12** are objected to because of the following informalities:

Claim 3, line 9 as amended; claim 9, line 8; claim 10, line 9 as amended; and claim 12, lines 8 recite “first” at the end of the line. It is not clear if phrase means that the step is performed before all other steps or something else.

Claim 9, line 2; and claim 12, line 1 read “the mobile station”, should be --a mobile station-- for clarity and precision of language.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 9, 12, 50-51 and 60-64** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (Non-Patent Literature document cited as document number 2 in IDS filed on June 02, 2005: B-259 Base Station Code Assignment for A CDMA/TDD System, Page 259. 1995 IEICE (the Institute of Electronics, Information and Communication Engineers) Communication Society Convention) in view of Hamabe (US Patent Number 5,603,082).

Regarding **claim 9**, Watanabe et al. discloses a method (page 2, line 18 to page 4, line 4) of searching for a neighboring cell (page 3, line 18) in a mobile communications system allowing a mobile station communicating with a plurality of base stations (Figure 2) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (codes) sent from sectors to the mobile station, the method characterized by including the steps of:

assigning (allocating) channel identifiers (for example: codes A, B,...H) belonging to a same group (for example: group 0) to the sectors within a same base station (page 3, lines 6-11); and

searching (scan) for other channel identifiers in the same group as the channel identifier of a sector already-captured by the mobile station, first (it is decided that the mobile station resides in H within group 0; therefore, "already-captured" H – page 3, lines 12-18).

However, Watanabe et al. fails to specify the sectors are within a same base station as defined by applicant.

In the same field of endeavor, Hamabe discloses a method of searching for a neighboring cell in a mobile communications system wherein the base stations are divided in sectors and each

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sector is assigned a channel identifiers (for example: codes 13-18 to sectors 33a-33f within base station 13 – column 7, lines 56-67 and Figure 4). An advantage of Hamabe's sectorized base station is better frequency reuse and increased service capacity.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Watanabe et al. such that sectors are within a same base station for the advantage of better frequency reuse and increased service capacity.

As to **claim 12**, it is the corresponding system claim of method claim 9; therefore, same rejection explained above is applied.

Regarding **claims 50-51 and 63-64**, Watanabe et al. and Hamabe disclose everything claimed as applied above (see claims 9 and 12). In addition, Watanabe et al. discloses that the channel identifier consists of a spreading code or a carrier frequency; and the channel identifier is included in a perch channel signal (page 3, lines 2, and 19-23).

Regarding **claim 60**, Watanabe et al. discloses means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, first, as explained for claims 9 and 12 above, explanation that is incorporated by reference.

Regarding **claims 61-62**, Watanabe et al. and Hamabe disclose everything claimed as applied above (see claims 9 and 12). In addition, Watanabe et al. discloses that the channel identifier consists of a spreading code or a carrier frequency; and the channel identifier is included in a perch channel signal (page 3, lines 2, and 19-23).

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6. **Claims 3-4, 10, 38, 34, and 58-59** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamabe (US Patent Number 5,603,082) in view of Watanabe et al. (Non-Patent Literature document cited as document number 2 in IDS filed on June 02, 2005: B-259 Base Station Code Assignment for A CDMA/TDD System, Page 259. 1995 IEICE (the Institute of Electronics, Information and Communication Engineers) Communication Society Convention).

Regarding **claim 3**, Hamabe discloses a mobile communications system (Figure 1) including a mobile station (21) that communicates with a plurality of base stations (11-13), and decides sectors the mobile station waits for or communicates with by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station,

wherein said mobile communications system assigns channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors in a same base station. (See column 7, line 55 to column 8, line 20; column 9, lines 41-55).

Hamabe fails to disclose: means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, first, as claimed.

In the same field of endeavor, Watanabe et al. discloses means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for searching for other channel identifiers in a same group as the channel identifier

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received by said receiving means belongs to, first, as explained for claims 9 and 12 above, explanation that is incorporated by reference.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanabe as claimed for the advantage of better frequency reuse and increased service capacity.

Regarding **claim 4**, Hamabe and Watanabe et al. disclose everything claimed as applied above (see *claim 3*). In addition, Hamabe discloses that the system further includes assigning contiguous base stations channel identifiers belonging to other groups (for example, group 2: slots 7-12 assigned to BS 12 contiguous to BS 11). (See column 7, lines 55-67).

Regarding **claim 38 and 43**, Hamabe discloses everything claimed as applied above (see *claim 3*). In addition, the channel identifier consists of a spreading code or a carrier frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore, ). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67). In addition, Watanabe et al. discloses that the channel identifier consists of a spreading code or a carrier frequency; and the channel identifier is included in a perch channel signal (page 3, lines 2, and 19-23).

Regarding **claim 10**, Hamabe discloses a mobile communications system (Figure 1) allowing the mobile station (21) communicating with a plurality of base stations (11-13) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station, including:

means for (inherent) assigning channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors within a same base station. (See column 7, line 55 to column 8, line 20; column 10, lines 20-58; column 12, lines 1-33)

means for (inherent) sending from a base station (11) to a visiting mobile station (mobile station 21 is “visiting”) a notification (identification signal) of any one of channel identifiers assigned to sectors of one of neighboring base stations, and/or a notification of a group number to which the channel identifiers belong. (See column 9, lines 41-55; column 10, lines 20-58; column 12, lines 1-33).

Hanabe fails to disclose: means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, first, as claimed.

In the same field of endeavor, Watanabe et al. discloses means for recording the group of the channel identifier; means for receiving the channel identifier from the base station; and means for searching for other channel identifiers in a same group as the channel identifier received by said receiving means belongs to, first, as explained for claims 9 and 12 above, explanation that is incorporated by reference.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanabe as claimed for the advantage of better frequency reuse and increased service capacity.

Regarding **claim 58-59**, Hamabe discloses everything claimed as applied above (see *claim 10*). In addition, the channel identifier consists of a spreading code or a carrier frequency

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(column 1, line 35: Hamabe's channel is carrier frequency; therefore, ). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67). In addition, Watanabe et al. discloses that the channel identifier consists of a spreading code or a carrier frequency; and the channel identifier is included in a perch channel signal (page 3, lines 2, and 19-23).

7. **Claims 7, 11, 13, 39, 44, 56-57, and 65-66** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamabe (US Patent Number 5,603,082) in view of Taketsugu (US Patent Number 5,530,910).

Regarding **claim 7**, Hamabe discloses a method of searching for a neighboring cell utilizing information (identification signal containing channel identifier) sent from sectors (at BS 11-13) to a mobile station (21) in a mobile communications system (Figure 1) allowing the mobile station (21) communicating with a plurality of base stations (11-13) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station, including the steps of:

assigning channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors within a same base station. (See column 7, line 55 to column 8, line 20)

sending from a base station (11) to a visiting mobile station (mobile station 21 is "visiting") a notification (identification signal) of any one of channel identifiers assigned to sectors of one of neighboring base stations, and/or a notification of a group number to which the channel identifiers belong. (See column 9, lines 41-55).

However, Hamabe fails to disclose that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector as defined by applicant.

In the same field of endeavor, Taketsugu discloses that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector (column 2, line 44 to column 4, line 34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hamabe as claimed for the advantage of more efficient handover candidate search.

Regarding **claim 39 and 44**, Hamabe discloses everything claimed as applied above (see *claim 3*). In addition, the channel identifier consists of a spreading code or a carrier frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore, ). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67).

Regarding **claim 11**, Hamabe discloses a mobile communications system (Figure 1) allowing the mobile station (21) communicating with a plurality of base stations (11-13) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station, including:

means for (inherent) assigning channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors within a same base station. (See column 7, line 55 to column 8, line 20; column 10, lines 20-58; column 12, lines 1-33)

means for (inherent) sending from a base station (11) to a visiting mobile station (mobile station 21 is “visiting”) a notification (identification signal) of any one of channel identifiers assigned to sectors of one of neighboring base stations, and/or a notification of a group number to which the channel identifiers belong. (See column 9, lines 41-55; column 10, lines 20-58; column 12, lines 1-33).

However, Hamabe fails to disclose that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector as defined by applicant.

In the same field of endeavor, Taketsugu discloses that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector (column 2, line 44 to column 4, line 34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanabe as claimed for the advantage of more efficient handover candidate search.

Regarding **claim 56-57**, Hamabe and Taketsugu disclose everything claimed as applied above (see *claim 11*). In addition, the channel identifier consists of a spreading code or a carrier

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frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore, ). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67).

Regarding **claim 13**, Hamabe discloses a base station (11) in a mobile communications system (Figure 1) allowing the mobile station (21) communicating with a plurality of base stations (11-13) to decide a sector the mobile station waits for or communicates with, by using grouped channel identifiers (for example, group 1: slots 1-6; group 2: slots 7-12; group 3: slots 13-18) sent from sectors (at the BS) to the mobile station, including the steps of:

means for (inherent) assigning channel identifiers belonging to a same group (for example, group 1: slots 1-6 are assigned to BS 11) to the sectors within a same base station. (See column 7, line 55 to column 8, line 20; column 10, lines 20-58; column 12, lines 1-33)

means for (inherent) sending from a base station (11) to a visiting mobile station (mobile station 21 is "visiting") a notification (identification signal) of any one of channel identifiers assigned to sectors of one of neighboring base stations, and/or a notification of a group number to which the channel identifiers belong. (See column 9, lines 41-55; column 10, lines 20-58; column 12, lines 1-33).

However, Hamabe fails to disclose that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the neighboring base station and to which the greatest number of the mobile stations make handover from a current sector as defined by applicant.

In the same field of endeavor, Taketsugu discloses that the channel identifier notified in the step of sending a notification is a channel identifier of a sector which belongs to the

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neighboring base station and to which the greatest number of the mobile stations make handover from a current sector (column 2, line 44 to column 4, line 34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hanabe as claimed for the advantage of more efficient handover candidate search.

Regarding **claim 65 and 66**, Hamabe and Taketsugu disclose everything claimed as applied above (see *claim 13*). In addition, the channel identifier consists of a spreading code or a carrier frequency (column 1, line 35: Hamabe's channel is carrier frequency; therefore, ). The channel identifier is included in a perch channel (control channel) signal (column 5, lines 64-67).

#### ***Response to Arguments***


8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

9. Any inquiry concerning this communication from the examiner should be directed to Eliseo Ramos-Feliciano whose telephone number is 571-272-7925. The examiner can normally be reached from 8:00 a.m. to 5:30 p.m. on 5-4/9 1st Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid, can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**ELISEO RAMOS-FELICIANO**  
**PATENT EXAMINER**

ERF/erf

June 10, 2005